

[illegible]

An output signal of a single mode fiber (SMF) is spectrally shaped to achieve characteristics of a predefined channel “target” response. The target response is that of a partial-response, maximum-likelihood channel with additive white Gaussian noise. A receiver employs a maximum-likelihood sequence estimation (MLSE) detector having its detection algorithm, such as a Viterbi algorithm (VA), matched to the target response. Thus, state, branch, and path metric calculations for a Viterbi trellis may be optimized for a channel having this target response.